

REMARKS/ARGUMENTS

Claims 1-11, 13-15 and 18-21 are pending, claims 1-6, 8, 10 and 11 having been withdrawn from consideration. By this Amendment, claims 12 and 16 are cancelled and claims 7 and 13 are amended. Support for the amendments to claims 7 and 13 can be found, for example, in the present specification at page 17, lines 4 to 9, and in original claims 7, 12, 13 and 16. No new matter is added. In view of the foregoing amendments and following remarks, reconsideration and allowance are respectfully requested.

Rejection Under 35 U.S.C. §102

The Office Action rejects claims 7, 9, 14, 15 and 18-20 under 35 U.S.C. §102(e) over U.S. Patent No. 7,087,530 to Motonari et al. ("Motonari"). Applicants respectfully traverse the rejection.

Claim 7 recites "[a] process for producing a semiconductor device, comprising: polishing a surface of a semiconductor material with an aqueous dispersion for chemical mechanical polishing comprising abrasive grains and a heterocyclic compound; wherein: the abrasive grains comprise: (A) simple particles comprising at least one member selected from the group consisting of inorganic particles and organic particles; and (B) composite particles ... the abrasive grains are employed in an amount of 0.11 to 20% by mass, a content of the simple particles (A) being from 0.1 to 19.99% by mass and a content of the composite particles (B) being from 0.01 to 19.9% by mass; and the composite particles (B) comprise the inorganic particles in an amount of from 1 to 2,000 parts by weight per 100 parts by weight of the organic particles" (emphasis added). Motonari does not disclose or suggest such a process.

The Office Action asserts that Motonari discloses a process for producing a semiconductor device in which a surface of a semiconductor material is polished with a

chemical mechanical polishing composition including abrasive grains and a heterocyclic compound. *See* Office Action, page 3. Notwithstanding this assertion, Motonari does not anticipate and would not have rendered obvious claim 7.

As indicated above, claim 7 requires that abrasive grains are employed in an amount of 0.11 to 20% by mass, a content of simple particles being from 0.1 to 19.99% by mass and a content of composite particles being from 0.01 to 19.9% by mass, and that the composite particles include inorganic particles in an amount of from 1 to 2,000 parts by weight per 100 parts by weight of organic particles. The Office Action concedes that Motonari does not disclose employing abrasive grains having such characteristics, but asserts that it would have been obvious to optimize the abrasive grains employed in Motonari to obtain the method of claim 7. As is well-settled, a particular parameter must first be recognized as a result-effective variable before the determination of workable ranges can be said to be an obvious variation. *See, e.g.*, MPEP §2144.05.II.B (citing *In re Antonie*, 195 U.S.P.Q. 6 (C.C.P.A. 1977)). The Office Action fails to identify, in Motonari or in the prior art generally, recognition the above-referenced characteristics recited in claim 7 are result-effective variables. Accordingly, one of ordinary skill in the art would not have been motivated to optimize those variables, as asserted in the Office Action.

Performing polishing using abrasive grains having characteristics as recited in claim 7 allows for high removal rates, prevention of dishing and erosion, and prevention of surface defects such as scratches. *See* present specification, page 17, lines 14 to 18, page 18, lines 20 to 25. Motonari does not disclose or suggest abrasive grains as recited in claim 1, or recognize the benefits stemming from employing such abrasive grains in a polishing process.

As Motonari fails to disclose or suggest a method employing abrasive grains in an amount of 0.11 to 20% by mass, a content of simple particles being from 0.1 to 19.99% by mass and a content of composite particles being from 0.01 to 19.9% by mass, and the

composite particles including inorganic particles in an amount of from 1 to 2,000 parts by weight per 100 parts by weight of organic particles, Motonari fails to disclose or suggest each and every feature of claim 7.

As explained, claim 7 is not anticipated by Motonari. Claims 9, 14, 15 and 18-20 depend from claim 7 and, thus, also are not anticipated by Motonari. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Rejection Under 35 U.S.C. §103

The Office Action rejects claims 12, 13, 16 and 21 under 35 U.S.C. §103(a) over Motonari. By this Amendment, claims 12 and 16 are cancelled, rendering the rejection moot as to those claims. As to the remaining claims, Applicants respectfully traverse the rejection.

Motonari would not have rendered obvious claim 7 for at least the reasons discussed above. Claims 13 and 21 depend from claim 7 and, thus, also would not have been rendered obvious by Motonari. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Conclusion

For the foregoing reasons, Applicants submit that claims 1-11, 13-15 and 18-21 are in condition for allowance. Prompt reconsideration and allowance are respectfully requested.

Respectfully submitted,

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